

REMARKS

The Office Action mailed on April 25, 2000, has been received and reviewed. Claims 1-5, 11-17, 25-28, and 33-38 are currently pending in the application. Claims 1-5, 11-17, 25-28, and 33-38 stand rejected. After carefully considering the cited references, the rejections, and the examiner's comments, applicant has amended the claimed invention to clearly distinguish over the cited references. Applicant has amended claims 1, 11, 25, and 33 and respectfully requests reconsideration of the application as amended herein.

Amendments from May 5, 1998

The amendments to page 5, line 121 and page 5, line 13 in the amendment filed May 5, 1998, were not performed because the indicated terms did not occur in those locations. Applicant respectfully requests that the specification be amended on page 5, line 11, as described above.

35 U.S.C. § 102(e) Anticipation Rejections

Claims 1-4, 11-14, 16, 25-27, 33-35, and 37 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,712,185 issued to Tsai et al. ("Tsai"). Applicant respectfully traverses this rejection, as hereinafter set forth. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claims 1, 11, 25, and 33 are not anticipated by Tsai because Tsai does not teach the element of "applying a layer of isolation material directly above said buffer film layer filling said trench." Tsai teaches a semiconductor device that is comprised of a semiconductor substrate 30, pad oxide layer 32, a silicon nitride layer 34, and a sacrificial layer 36, in elevationally ascending order. Column 2, line 53 through Column 3, line 2; Figures 3A and 3B. A trench spanning all four layers is formed by etching portions of the layers. Column 3, lines 5-

18; Figure 3D. The resulting trench 38 is filled with a dielectric layer 40, which extends to cover sacrificial layer 36. The dielectric layer is directly above the sacrificial layer 36, and therefore is not directly above the buffer film layer or silicon nitride layer 34. Figure 3G. After subsequent etching steps, isolation region 40A is produced. Column 3, lines 19-65; Figure 3H-3J.

Each of claims 1, 11, 25, and 33, as proposed to be amended herein, recites the, among other things, “applying . . . isolation material directly to [a] buffer film layer . . .” By way of contrast with these claims, Tsai teaches that a dielectric, isolation material is applied to a sacrificial layer rather than to a buffer film layer. This sacrificial layer separates the isolation material from an underlying layer of silicon nitride, which is an example of a material that may be used to form the buffer film layer. Thus, it is respectfully submitted that Tsai does not disclose “applying . . . isolation material directly to [a] buffer film layer . . .” Therefore, Tsai does not anticipate the subject matter recited in any of amended independent claims 1, 11, 25, or 33.

Claims 2-4 are allowable as depending from claim 1, which is allowable. Claims 12-14 and 16 are allowable as depending from claim 11, which is allowable. Claims 26-27 are allowable as depending from claim 25, which is allowable. Claims 34-35 and 37 are allowable as depending from claim 33, which is allowable.

35 U.S.C. § 103(a) Obviousness Rejections

Claims 5, 15, 28, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,712,185 issued to Tsai et al. (“Tsai”) as applied to claims 1-4, 11-14, 16, 25-27, 33-35, and 37 above, and further in view of U.S. Patent No. 5,834,358 issued to Pan et al. (“Pan”). Claims 17 and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,712,185 issued to Tsai et al. (“Tsai”) as applied to claims 1-4, 11-14, 16, 25-27, 33-35, and 37 above.

Applicant respectfully submits that dependent claims 5, 15, 28, and 36 are not rendered obvious by Tsai in view of Pan because a dependent claim is only obvious if the independent claim from which it depends is obvious. *See In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), *see also* M.P.E.P. § 2143.03. Since claims 5, 15, 28, and 36 depend directly from

allowable independent claims 1, 11, 25, and 33, respectively, they are not rendered obvious. Applicant submits that dependent claims 17 and 38 are not rendered obvious by Tsai for the same reasons.

ENTRY OF AMENDMENTS

The amendments to claims 1, 11, 25, and 33 should be entered by the examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1-5, 11-17, 25-28, and 33-38 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



Brick G. Power
Registration Number 38,581
Attorney for Applicant
TRASK BRITT
P.O. Box 2550
Salt Lake City, Utah 84110
Telephone: (801) 532-1922

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BGP/sls:djp